

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1 (Cancelled).

2 (Previously Presented). The method according to claim 28 for inhibiting cell proliferation for the treatment of malignancies in mammals.

3 (Previously Presented). The method according to claim 28 for inhibiting growth-factor dependent tumors.

4 (Previously Presented). The method according to claim 28 for inhibiting human breast carcinoma cell proliferation.

5 (Previously Presented). The method according to claim 4 for treatment of human breast carcinomas.

6 (Previously Presented). The method according to claim 28 for inhibiting the growth stimulatory effect of insulin on tumor cells, as mediated, at least partially, by the insulin receptor substrate-1 (IRS-1)/growth-factor receptor-associated binding protein-2 (GRB2) pathway.

7 (Previously Presented). The method according to claim 28 for inhibiting the mitogenic responses in tumor cells to one or more receptor kinases, growth factors and cytokines of the group consisting of IGF-1, IL-4 and IL-9, for all of which IRS-1 is a substrate for the treatment of tumors.

8 (Previously Presented). The method according to claim 28 for inhibiting basal and insulin-induced tumor cell proliferation for the treatment of human breast cancers.

9 (Previously Presented). The method according to claim 28, wherein said active ingredient is leptin, and said leptin is used as said inhibitor or for said treatment.

10-27 (Cancelled)

28 (Currently Amended). A method for treating tumors in mammals or for inhibiting tumor cell proliferation in mammals, comprising administering to a mammal in need thereof an effective amount of an active agent selected from the group consisting of:

- (a) leptin;
- (b) a mutein of leptin having at least 60% identity with the sequence of a leptin and has the ability to block cell proliferation or having a sequence encoded by a nucleic

acid which hybridizes to a nucleic acid which encodes leptin under stringent conditions and has the ability to block cell proliferation;

(c) a fragment of one of (a) or (b) which has the ability to block cell proliferation;

(d) a fusion protein comprising (a), (b) or (c);

(e) ~~a leptin receptor agonist which has the ability to block cell proliferation; and~~

~~(f) a salt or functional derivative of any of (a) - (d); and~~

(f) a functional derivative of any of (a) - (d) which includes one or more polyethylene glycol side chains formed by means of functional groups which occur as side chains of any of (a) - (d), aliphatic esters of one or more carboxyl groups, amides of one or more carboxyl groups by reaction with ammonia or with primary or secondary amines, N-acyl derivatives of one or more free amino groups of the amino acid residues formed with acyl moieties and/or O-acyl derivatives of free hydroxyl groups formed with acyl moieties.

29 (Previously Presented). A method in accordance with claim 28, wherein said active agent is leptin.

30 (Previously Presented). A method in accordance with claim 28, wherein said active agent is a mutein of leptin

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having at least 60% identity with the sequence of a leptin and has the ability to block cell proliferation.

31 (Previously Presented). A method in accordance with claim 28, wherein said active agent is a mutein of leptin having a sequence encoded by a nucleic acid which hybridizes to a nucleic acid which encodes leptin under stringent conditions and has the ability to block cell proliferation.

32 (Previously Presented). A method in accordance with claim 28, wherein said active agent is a fragment of (a) or (b) of claim 28, which has the ability to block cell proliferation.

33 (Previously Presented). A method in accordance with claim 32, wherein said active agent is a fragment of leptin which has the ability to block cell proliferation.

34 (Previously Presented). A method in accordance with claim 28, wherein said active agent is a fusion protein comprising (a), (b) or (c) of claim 28.

35 (Previously Presented). A method in accordance with claim 34, wherein said active agent is a fusion protein comprising leptin.

36 (Cancelled).

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37 (Previously Presented). A method in accordance with claim 28, wherein said active agent comprises a mutein of leptin having at least 70% identity with the sequence of a leptin and has the ability to block cell proliferation.

38 (Previously Presented). A method in accordance with claim 28, wherein said active agent comprises a mutein of leptin having at least 80% identity with the sequence of a leptin and has the ability to block cell proliferation.

39 (Previously Presented). A method in accordance with claim 28, wherein said active agent comprises a mutein of leptin having at least 90% identity with the sequence of a leptin and has the ability to block cell proliferation.